



# Will Health Care Costs Bankrupt Aging Boomers?

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## The Retirement Policy Program

*A cross-cutting team of Urban Institute experts in Social Security, labor markets, savings behavior, tax and budget policy, and microsimulation modeling ponder the aging of American society.*

The aging of America raises many questions about what's in store for future and current retirees and whether society can sustain current systems that support the retired population. Who will prosper? Who won't? Many good things are happening too, like longer life and better health. Although much of the baby boom generation will be better off than those retiring today, many face uncertain prospects. Especially vulnerable are divorced women, single mothers, never-married men, high school dropouts, and lower-income African Americans and Hispanics. Even Social Security—which tends to equalize the distribution of retirement income by paying low-income people more than they put in and wealthier contributors less—may not make them financially secure.

Uncertainty about whether workers today are saving enough for retirement further complicates the outlook. New trends in employment, employer-sponsored pensions, and health insurance influence retirement decisions and financial security at older ages. And, the sheer number of reform proposals, such as personal retirement accounts to augment traditional Social Security or changes in the Medicare eligibility age, makes solid analyses imperative.

Urban Institute researchers assess how current retirement policies, demographic trends, and private sector practices influence older Americans' security and decisionmaking. Numerous studies and reports provide objective, nonpartisan guidance for policymakers.

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## Executive Summary

Rising health care costs pose a significant threat to boomers' retirement security. Although Medicare covers nearly all adults age 65 and older, premiums, deductibles, copays, and holes in the benefit package leave many older Americans with substantial out-of-pocket expenses. Unless health care practices or public policy change, seniors' out-of-pocket spending will likely grow in coming years as health care costs continue to increase.

This report examines the likely financial burden of health care costs for baby boomers as they age. It uses DYNASIM3, the Urban Institute's dynamic microsimulation model, to project income and out-of-pocket medical expenses and insurance premiums for Americans age 65 and older from 2010 to 2040. The boomers, born between 1946 and 1964, will reach age 66 to 84 in 2030 and age 76 to 94 in 2040. Our baseline estimates assume that current Medicare policies and employer benefit practices continue, and use the intermediate per capita Medicare cost growth rates forecast by the Medicare trustees in 2009 to inflate future out-of-pocket spending levels. Other scenarios simulate out-of-pocket spending under alternate cost growth assumptions. The estimates exclude the cost of long-term care, which does not usually involve medical treatment.

The results show that the financial burden of health care costs will increase steadily over time if future costs grow at the intermediate rate projected by the Medicare trustees in 2009.

- Between 2010 and 2040, median annual real out-of-pocket costs for Americans age 65 and older will more than double in constant 2008 dollars, from about \$2,600 to about \$6,200. Nearly 1 in 10 older adults will spend more than \$14,000 per year on health care in 2040.

- Real median size-adjusted household income for adults age 65 and older will increase more slowly, from about \$26,800 in 2010 to about \$34,600 in 2040 (in constant 2008 dollars). Later-life income increases each decade because productivity gains raise earnings at working ages, boosting future Social Security benefits, although income growth will slow down after 2020.
- Because costs will grow more rapidly than incomes, the financial burden of health care will increase for older adults. Between 2010 and 2040, the median share of household income spent on health care by Americans age 65 and older will increase from 10 to 19 percent. The share of adults age 65 and older spending more than a fifth of their household income on health care—a common measure of burdensome costs—will increase from 18 percent in 2010 to 35 percent in 2030 and 45 percent in 2040. The share with burdensome costs will increase to 52 percent if employers eliminate all retiree health benefits by 2040.
- Rising out-of-pocket health care spending will consume about 60 percent of the growth in older Americans' real household incomes between 2010 and 2040.
- The growth in health care costs will create special challenges for low-income seniors. Between 2010 and 2040, the median share of income spent on health care by older adults in the bottom fifth of the income distribution will increase from 21 to 39 percent. The share for those in the top fifth of the distribution, by contrast, will increase by only 3 percentage points (from 5 to 8 percent). In 2040, health care costs will consume more than 20 percent of income for about 7 in 10 of those in the bottom two-fifths of the income distribution.

The Medicare trustees' intermediate long-term projections assume that costs will grow more slowly than they have in the recent past. Financial burdens for older Americans will increase more rapidly if costs instead grow at the average annual rate that prevailed between 1970 and 2005.

- Under this scenario, the median share of income spent on health care by adults age 65 and older will reach 29 percent in 2040, and 64 percent of older Americans will devote at least one-fifth of their incomes to out-of-pocket costs.

These projections underscore the need to control rising health care spending. As many analysts have observed, steady cost growth threatens to bankrupt Medicare and strain the federal budget, potentially crowding out other government priorities. The deleterious effects of increased health care spending on older adults' personal budgets have received less attention but are also substantial. Numerous ways of curbing cost growth by improving the efficiency of health care delivery have been suggested, often focusing on reworking financial incentives to reward effective and efficient care. These reforms will not be easy to implement, but they are essential to Americans' retirement security.

## Introduction

The affordability of health care costs is a growing concern for older Americans. Slightly more than half of surveyed adults age 40 to 58 reported in 2004 that they worry about their ability to pay health care costs as they grow older (Merrill Lynch 2005). Only a quarter of retirees in a 2009 survey said they felt very confident about having enough money to cover medical expenses (Helman, Copeland, and VanDerhei 2009), and only 15 percent of adults age 45 to 64 reported in another 2009 survey that they were very confident of having enough money for their medical and living expenses in retirement (AARP 2009).

This report examines the likely financial burden of health care costs for baby boomers as they age. We project income and out-of-pocket medical expenses and insurance premiums for Americans age 65 and older from 2010 to 2040. The boomers, born between 1946 and 1964, will reach age 66 to 84 in 2030 and age 76 to 94 in 2040. Our baseline estimates assume that current Medicare policies and employer benefit practices continue, and use the intermediate per capita Medicare cost growth rates forecast by the Medicare trustees (Medicare Boards of Trustees 2009) to inflate future out-of-pocket spending levels. We also simulate out-of-pocket spending under alternate cost growth assumptions. Congress might, for example, enact significant cost containment measures, which might reduce future spending levels below the trustees' projections. On the other hand, spending could easily exceed the trustees' forecasts, which envision slower cost growth than the actual inflation-adjusted experience over the past 35 years. Our estimates exclude the cost of long-term care, which does not usually involve medical treatment.

The results show that the financial burden of health care costs will increase steadily over time. In 2040, half of adults age 65 and older will spend at least 19 percent of their household



incomes on health care, up from 10 percent in 2010, if costs grow at the intermediate rate projected by the Medicare trustees. About 7 in 10 older Americans in the bottom two-fifths of the income distribution will spend more than 20 percent of their incomes on health care in 2040. Out-of-pocket spending would be substantially higher if future costs instead grow as fast as they have over the past 35 years. These projections underscore the importance of controlling health care costs and the need for boomers to plan for significant health care spending in retirement.

## **Insurance Options at Older Ages**

Unlike younger Americans, nearly all adults age 65 and older have health insurance coverage through Medicare. However, Medicare coverage does not always eliminate high out-of-pocket costs. Deductibles and copays for Medicare services are sometimes substantial. Medicare coverage excludes certain devices and services, such as dental care, most routine physical exams, routine vision care and eyeglasses, and hearing examinations and hearing aides. Seniors may purchase private supplemental insurance to cover these costs, but Medigap policies, as they are known, are expensive. Some retired beneficiaries receive health benefits from their former employers that supplement Medicare (and sometimes cover their spouses), although many employers are cutting these benefits.

Medicare premiums also contribute to out-of-pocket costs. Most seniors are not charged premiums for Medicare Part A, which covers hospitalizations and other inpatient care and is financed by payroll taxes levied on employers and workers. However, most beneficiaries pay monthly premiums for Medicare Part B, which covers doctor visits and other outpatient services, and Part D, which covers prescription drugs. Federal subsidies keep premiums relatively low, even though they sometimes burden low- and moderate-income seniors. The 2010 Part B

monthly premium is \$110.50, only a quarter of the average cost of providing coverage. High-income beneficiaries pay higher premiums—as much as \$353.60 per month in 2010—because they receive lower subsidies.<sup>1</sup> Part D coverage is provided through private plans that offer a range of benefits at different premium levels. The Centers for Medicare and Medicaid Services (CMS) estimates that the average 2010 Part D premium is \$30 per month (CMS 2009).

Some older adults with few financial resources receive additional help with their medical expenses. Seniors with very limited assets and income may qualify for Medicaid, which pays virtually all health care costs for enrollees, including Medicare premiums. Those with too much income or wealth to receive full Medicaid benefits may qualify for more limited public assistance with Medicare premiums, deductibles, and copays through such programs as the Qualified Medicare Beneficiary (QMB) program and the Specified Low-Income Medicare Beneficiary (SLMB) program. Also, the Medicare Part D Low-Income Subsidy (LIS) fully covers Part D premiums, deductibles, and cost shares for those with incomes at or below 135 percent of the poverty level. It provides more limited help for those with incomes between 135 and 150 percent of the poverty level. However, many eligible older adults fail to enroll in these programs (Congressional Budget Office [CBO] 2004). Some people are unaware of these initiatives, others find the application process too complex, and others wish to avoid the stigma they associate with public assistance (Medicare Payment Advisory Commission 2008).

Most older adults do not pay much out of pocket for their health care today. In 2006, half of Americans age 65 and older spent less than 12.3 percent of their before-tax cash income on

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<sup>1</sup> Federal law forbids the annual increase in Part B premiums paid by a beneficiary from exceeding the annual increase in his or her Social Security benefits. As a result, most Medicare beneficiaries who pay standard Part B premiums will continue to pay 2009 rates (equal to \$96.40 per month), not the higher 2010 rates, because Social Security recipients did not receive a cost-of-living increase in January 2010. Cost-of-living adjustments are tied to the year-to-year change in the September consumer price index, which fell between 2008 and 2009. However, high-income beneficiaries who pay more than the basic premium, beneficiaries who were not covered by Part B in 2009, and those who are not yet collecting Social Security benefits pay the full 2010 premiums.

payments to health care providers and public and private insurance premiums (Johnson and Mommaerts 2009). Many low-income older adults, however, struggle with health care costs. Nearly half of older Americans with incomes below twice the poverty level—who represent the bottom third of the income distribution—spent more than one-fifth of their incomes on health care in 2006.

### **Factors Influencing Future Health Care Burdens**

Rising health care costs will likely boost older adults' out-of-pocket medical expenses in coming decades, forcing seniors to spend more on services not covered by insurance and to pay higher premiums, copays, and deductibles for Medicare and private supplemental insurance. National health spending has grown steadily for years, driven primarily by the diffusion of expensive new medical technologies (CBO 2008). Other cost drivers include increases in the prevalence of expensive medical conditions, income growth that raises the demand for health care services, and the administrative costs associated with a fragmented payment and service delivery system (Social Security Advisory Board 2009). Between 1970 and 2008, real per capita health care costs grew at an average annual rate of 4.2 percent, increasing the share of the nation's gross domestic product (GDP) going to health care from 7 to 16 percent (Hartman et al. 2010). Without concerted efforts to rein in spiraling costs, overall health care spending will likely continue to grow faster than the output of other goods and services. Current projections indicate that health care spending will consume 20 percent of GDP in 2018 and about one-third of GDP in 2040 (CBO 2007; CMS 2010).

Out-of-pocket health care costs may increase even more rapidly for seniors if employers and the federal government shift more costs to consumers. Many employers are cutting back on

retiree health benefits, raising retiree premium contributions and copays or eliminating coverage completely. Among firms with 200 or more employees that offered health benefits to active workers, the share offering retiree health benefits fell from 66 percent in 1988 to 29 percent in 2009 (Kaiser Family Foundation and Hewitt Associates 2009). Medicare's rising costs may force Congress to cut benefits or require beneficiaries to share more of the costs. The Medicare trustees projected in 2009 that the Part A trust fund will run out of money in 2017 (Medicare Boards of Trustees 2009), and the Government Accountability Office (2009) estimates that net Medicare costs will consume a fifth of federal spending by 2050.

The affordability of health care depends on how much money seniors have as well as their medical expenses. Income growth at older ages will likely slow in coming years because the Social Security retirement age is increasing and traditional defined benefit pension plans are disappearing. Social Security's full retirement age increased from 65 to 66 a few years ago and is scheduled to increase to 67 beginning in 2022.<sup>2</sup> Workers may still claim Social Security retirement benefits as early as 62, but they will be penalized more. For example, workers who begin collecting at age 62 after 2021 (when the full retirement age will be 67) will generally receive only 70 percent of their full benefits for the rest of their lives, whereas those who began collecting at age 62 before 2000 received 80 percent of their full benefits.

The erosion in defined benefit pension plan coverage will also likely limit the growth in future retirement incomes. Although pension coverage rates have remained fairly stable over the past three decades, most covered workers now participate in 401(k)-type plans, not the once-dominant defined benefit pension plans. Defined benefit plans, which guarantee participants

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<sup>2</sup> The full retirement age gradually increased from 65 (for those who turned 62 before 2000) to 66 (for those who turned 62 in 2005). Under existing law, the full retirement age will begin slowly increasing again for those who turn 62 in 2017, until it reaches 67 for those who turn 62 in 2022 and later.

lifetime retirement benefits typically based on final earnings and years of service, usually provide substantial benefits to retirees who spend many years with a single employer. If workers consistently make substantial contributions, 401(k) plans, which function essentially as tax-advantaged savings accounts, may also generate sizeable retirement benefits. Few workers, however, contribute the maximum amount, and many do not contribute at all (Kawachi, Smith, and Toder 2006; Munnell and Sundén 2004). With average life spans increasing, retirees will have to spread these savings over longer periods unless people choose to delay retirement. Additionally, many private-sector employers that maintain defined benefit plans have recently frozen their pensions, preventing participants from accruing additional benefits and significantly reducing future benefits (Butrica et al. 2009; Munnell and Soto 2007). Slow income growth in coming decades, combined with rising health care costs, will increase the number of older Americans struggling to pay their medical expenses.

## **Estimating Future Spending**

We estimate the future financial burden of health care costs for older Americans by applying statistical models of out-of-pocket spending to projections of the older population for 2010, 2020, 2030, and 2040.<sup>3</sup> Population projections come from DYNASIM3, the Urban Institute's dynamic microsimulation model. Starting with a representative sample of Americans from the 1990–93 panels of the Survey of Income and Program Participation (SIPP), the model ages the data year by year, simulating such demographic events as births, deaths, marriages, and divorces, and such economic events as employment, earnings, savings, and retirement. Many of the model

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<sup>3</sup> Additional details are provided in the appendix.

predictions are calibrated to external targets, and utilize the inflation, interest rate, and productivity growth assumptions used by the 2009 Social Security trustees.<sup>4</sup>

The out-of-pocket spending modules first simulate health insurance coverage and then estimate spending as a function of insurance coverage. Equations based on 2006 data from the Health and Retirement Study predict coverage from employer-sponsored health insurance for workers and their spouses, employer-sponsored retiree health insurance, Medicare Part D, Medigap, and Medicaid. We also assign QMB, SLMB, and LIS enrollment among low-income seniors. Other equations using 2006 data from the Medical Expenditure Panel Survey (MEPS) estimate out-of-pocket payments to health care providers and out-of-pocket private premium payments as functions of insurance coverage, race and ethnicity, age, education, employment status, marital status, and income. Separate equations are estimated for men and women.

We apply results from our coverage and spending models to the DYNASIM3 simulations to project future levels of out-of-pocket spending. The model assigns 2006 out-of-pocket spending to adults age 65 and older from 2010 to 2040, assuming that the relationship between spending and demographics, income, and insurance coverage observed in 2006 continues into the future. We assign Medicare Part B premiums to all adults age 65 and older (with high-income beneficiaries paying more than others), except those in Medicaid, QMB, and SLMB (who do not pay Part B premiums). Seniors with Medicare Part D coverage are assigned average Part D premiums (CMS 2009), except those in Medicaid, QMB, SLMB, and LIS, who do not pay any Part D premiums.

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<sup>4</sup> Many previous studies have used DYNASIM3, including analyses of Social Security reform, employer-sponsored pension reform, future retirement income adequacy, and future long-term care needs. See Favreault and Smith (2004) for additional information on the model.

The model inflates spending to 2010, 2020, 2030, and 2040, with all amounts expressed in constant 2008 dollars. The baseline scenario assumes that overall out-of-pocket health care spending by older adults grows at the intermediate rate that the Medicare trustees project for Medicare. The trustees assume that future Medicare costs will grow more slowly than they did over the past 35 years, although they will continue to grow faster than the overall economy through 2040.<sup>5</sup> Because the future course of health care spending is inherently uncertain, we also examine three alternative cost growth scenarios. One alternative scenario assumes that real per capita costs follow the trustees' low-growth projections, increasing 2 percentage points per year more slowly than the intermediate growth rate, averaging about 0.8 percent per year between 2010 and 2040. A second alternative uses the trustees' high-growth projections, which assume that real per capita costs increase 4.8 percent per year, on average, over the next 30 years, 2 percentage points faster each year than the intermediate rate. A final scenario assumes that real per capita costs increase 4.4 percent each year, the actual average rate between 1970 and 2005. A final sensitivity analysis measures how our baseline projections for 2040 would change if we assumed that employers eliminated all retiree health benefits.

Results compare older Americans' household income to out-of-pocket health care spending over the next three decades. When comparing income to health care costs for married adults, we include spouses' spending even when they are younger than 65. Our household income measure includes all cash income (such as Social Security, pensions, interest, dividends, and earnings) before taxes are subtracted, plus the annuitized value of 80 percent of assets. The shift from traditional defined benefit pensions to 401(k) plans makes this asset adjustment

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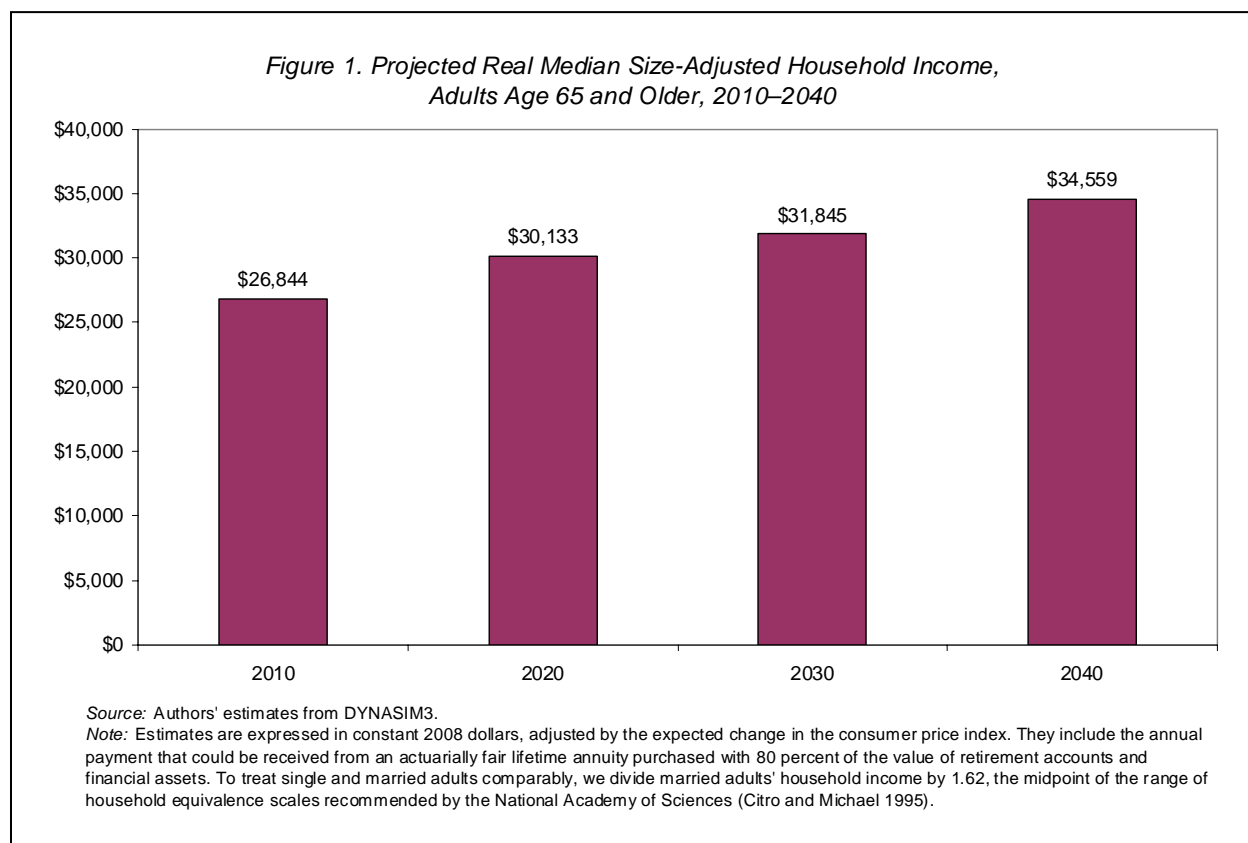
<sup>5</sup> The trustees project that real costs per beneficiary will grow at an average annual rate of about 2.8 percent between 2010 and 2040. They assume average annual growth rates of 2.2 percent from 2010 to 2020, 2.9 percent from 2020 to 2030, and 3.0 percent from 2030 to 2040 (Medicare Boards of Trustees 2009). Between 1970 and 2005, per-beneficiary real Medicare costs increased at an average annual rate of 4.4 percent.

particularly important. Retirees with defined benefit pensions receive streams of monthly payments that count as income, whereas 401(k) plan participants generally receive access to retirement savings accounts that are spent over time and are not counted as income. To account for this shift, we add to our income measure the annual payments people would receive if they used 80 percent of the value of their retirement accounts and financial assets to purchase an actuarially fair lifetime annuity. Our income measure differs, then, from the measure used by the U.S. Census Bureau and many other analysts, which includes the interest and dividends earned from assets but excludes the potential revenue people could receive from annuitizing their assets.

We also estimate the impact of out-of-pocket health care spending on future poverty rates for older adults. Health care costs do not affect the official poverty rates computed by the U.S. Census Bureau. These rates are defined as the share of Americans whose household cash income, before taxes, falls below the relevant poverty threshold, which varies with age and household size. The poverty threshold, set in the early 1960s and adjusted each year by the change in the consumer price index, is based on a minimal food budget, multiplied by three to cover nonfood expenses, such as shelter, clothing, and medical costs. In response to growing concerns that the official poverty rate no longer accurately reflects current household resources and needs, the National Academy of Sciences (NAS) proposed an alternative measure in the early 1990s (Citro and Michael 1995). In addition to advocating the use of after-tax income, new adjustment factors for household size, and other changes, they suggested that researchers subtract out-of-pocket health care costs from income when computing household resources.

We examine how a variant of this experimental NAS poverty rate varies for older adults between 2010 and 2040, and compare it with a variant of the official poverty rate. We construct our experimental measure by comparing before-tax income net of out-of-pocket costs to the NAS





poverty thresholds. Our measure of the official poverty rate differs from the rate computed by the U.S. Census Bureau because our income measure includes the annuitized value of 80 percent of their retirement accounts and other financial assets.

## Income Trends

We project that real median size-adjusted household income for adults age 65 and older will increase steadily over time, from about \$26,800 in 2010 to about \$34,600 in 2040 (figure 1).<sup>6</sup>

Later-life income increases each decade because productivity gains raise earnings at working ages, boosting future Social Security benefits. However, later-life income will grow more slowly

<sup>6</sup> To treat single and married adults comparably, we divide married adults' household income by 1.62. This factor recognizes that living expenses are lower when two adults live together than when they live separately, and is the midpoint of the range of household equivalence scales recommended by NAS (Citro and Michael 1995).

*Table 1. Projected Annual Out-of-Pocket Health Care Spending by Adults Age 65 and Older, 2010–2040 (Constant 2008 Dollars)*

Year	Average spending	Percentile of the Spending Distribution			
		25th	50th (median)	75th	90th
2010	3,278	1,909	2,583	3,934	5,854
2020	4,116	2,452	3,284	4,959	7,272
2030	5,708	3,398	4,569	6,855	10,053
2040	7,832	4,595	6,214	9,455	13,971

*Source:* Authors' estimates from DYNASIM3.

*Note:* Estimates assume that health care costs grow at the intermediate rate projected by the Medicare Boards of Trustees (2009), somewhat slower than the actual growth experienced over the past 30 years.

after 2020. Real median income for older adults will increase about 12 percent between 2010 and 2020, but only 6 percent between 2020 and 2030.

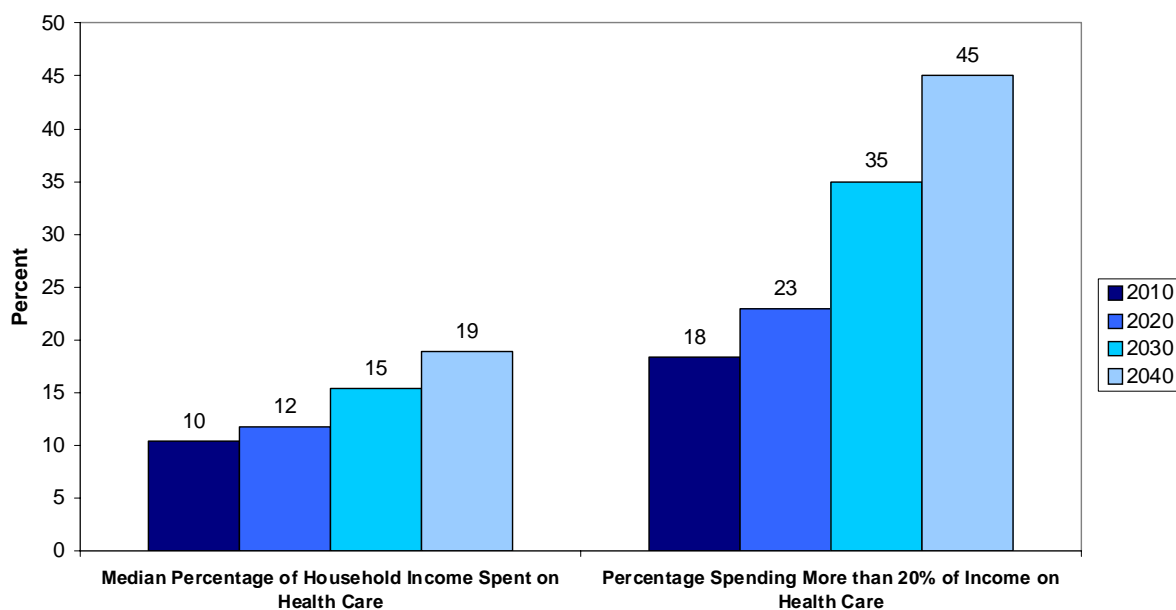
The slowdown is even more pronounced among younger seniors. Median income at age 65 to 74 will increase only 2 percent between 2020 and 2030, because those born between 1956 and 1965 (who reach their late sixties and early seventies in 2030) face a higher Social Security retirement age than those born 10 years earlier and are less likely to receive traditional pensions from their employers.

## **Out-of-Pocket Spending Levels**

Average out-of-pocket health care spending will increase much more rapidly than income. Between 2010 and 2040, average annual real out-of-pocket costs for Americans age 65 and older will more than double in constant 2008 dollars, from about \$3,300 to about \$7,800 (table 1).

The average hides substantial cost variation within the older population. In 2040, for example, half of adults age 65 and older will spend more than \$6,200 out of pocket on health

Figure 2. Financial Burden of Health Care Costs on Adults Age 65 and Older, 2010-2040



Source: Authors' estimates from DYNASIM3.

Note: Estimates assume that health care costs grow at the rate projected by the Medicare Boards of Trustees (2009). Estimates for married adults include spouses' health care spending. Income estimates include the annual payment that could be received from an actuarially fair lifetime annuity purchased with 80 percent of the value of retirement accounts and financial assets.

care costs (the median spending level), and half will spend less. However, nearly 1 in 10 will spend more than \$14,000, and one in four will spend less than \$4,600. Seniors with more health problems and higher incomes will spend more than others. Those older than 85 and those who purchase Medigap will also experience relatively high out-of-pocket costs.

## Health Care Spending Relative to Income

With out-of-pocket health care costs increasing more rapidly than incomes, the financial burden of health care will increase for older adults over the next few decades. Between 2010 and 2040, the median share of household income spent on health care by Americans age 65 and older will increase from 10 to 19 percent (figure 2). Robust income growth between 2010 and 2020 will

*Table 2. Financial Burden of Health Care Costs on Men and Women Age 65 and Older, 2010–2040*

<b>Sex</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>
<i>Median Percentage of Household Income Spent on Health Care</i>				
Men	9	10	14	17
Women	12	13	17	21
<i>Percentage Spending More than 20% of Income on Health Care</i>				
Men	14	19	31	40
Women	22	26	38	49

*Source:* Authors' estimates from DYNASIM3.

*Note:* Estimates assume that health care costs grow at the intermediate rate projected by the Medicare Boards of Trustees (2009). See note to figure 2 for additional details.

limit the increase in this ratio over the next 10 years, but it will surge after 2020 as later-life incomes stagnate.

The number of older Americans with burdensome out-of-pocket spending will increase even more rapidly, especially after 2020. The share of adults age 65 and older spending more than a fifth of their household income on health care—a common measure of burdensome costs—will increase from 18 percent in 2010 to 35 percent in 2030 and 45 percent in 2040.

As they do today, older women and low-income older adults will devote more of their incomes to health care in coming decades than older men and higher-income adults. Half of women age 65 and older will spend at least 17 percent of their incomes on health care in 2030 and 21 percent of their incomes in 2040, up from 12 percent today (table 2). In 2030, 38 percent of older women will spend at least a fifth of their incomes on health care, compared with 22 percent in 2010. By 2040, nearly half of older women will face financially burdensome health care costs.

Older women spend more on health care than older men because they are less likely to receive retiree health benefits from former employers and more likely to purchase expensive Medigap coverage. Women age 65 and older also use more health care services than older men, primarily because they are more likely to be very old. Women's relatively low incomes contribute to the financial burden created by health care expenses. In 2010, for example, older women's median household income falls nearly 25 percent below the median for older men (\$23,600 vs. \$30,900). This gap will narrow over time, as more women will enter retirement with substantial work histories in coming years. Even in 2040, however, women's median household income at age 65 and older will fall 10 percent below men's.

Rising health care costs create special challenges for low-income seniors. Between 2010 and 2040, the median share of income spent on health care by older adults in the bottom fifth of the income distribution will increase from 21 to 39 percent (table 3). Over the same period, the corresponding share for adults in the middle fifth of the income distribution will increase from 12 to 21 percent, while the share for those in the top fifth of the distribution will increase from 5 to 8 percent.

Low-income adults are much more likely to experience burdensome costs than those with higher incomes. In 2010, 37 percent of adults age 65 and older in the bottom fifth of the income distribution and 33 percent of those in the second fifth spend more than 20 percent of their incomes on health care, compared with 1 percent of those in the top fifth and 6 percent of those in the next highest fifth. In 2040, health care costs will consume more than 20 percent of income for about 7 in 10 of those in the bottom two fifths of the income distribution. Financially burdensome costs will also become much more common further up the income distribution. In

*Table 3. Financial Burden of Health Care Costs on Adults Age 65 and Older, by Income Quintile, 2010–2040*

<b>Income Quintile</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>
<i>Median Percentage of Household Income Spent on Health Care</i>				
Bottom	21	24	31	39
Second	15	17	23	28
Middle	12	13	17	21
Fourth	8	9	12	14
Top	5	5	7	8
<i>Percentage Spending More than 20% of Income on Health Care</i>				
Bottom	37	46	63	71
Second	33	40	57	71
Middle	16	22	38	52
Fourth	6	7	15	26
Top	1	1	2	5

*Source:* Authors' estimates from DYNASIM3.

*Note:* Estimates assume that health care costs grow at the intermediate rate projected by the Medicare Boards of Trustees (2009). See note to figure 2 for additional details.

2040, about half of older adults in the middle income quintile and about a quarter of those in the fourth income quintile will spend more than 20 percent of their incomes on health care spending.

Somewhat paradoxically, income growth will leave some less-well-off seniors more vulnerable to burdensome costs in the next few decades because fewer will qualify for Medicaid and other public assistance. Only those older adults with incomes below the federal poverty level qualify for full Medicaid benefits, and only those with incomes below 150 percent of the poverty level qualify for partial assistance. Between 2010 and 2040, as real later-life incomes grow, the share of older adults in the bottom fifth of the income distribution with incomes below the poverty level will fall from 41 to 26 percent, while the share with full Medicaid coverage will fall from 32 to 23 percent. Consequently, health care costs will create financial hardships for growing numbers of low-income seniors.

*Table 4. Income and Poverty Rates Net of Out-of-Pocket Health Care Costs, Adults Age 65 and Older, 2010–2040*

	2010	2020	2030	2040
Real median household income (\$)	34,954	39,572	41,342	45,252
Real median household income net of out-of-pocket costs (\$)	30,407	33,694	33,458	34,854
Official poverty rate (but with annuitized asset values) (%)	8.1	6.9	5.8	5.2
Experimental poverty rate, which subtracts out-of-pocket costs from income (%)	21.3	19.7	20.6	21.4

*Source:* Authors' estimates from DYNASIM3.

*Note:* Estimates are expressed in constant 2008 dollars. Median household income reported here differs from the estimates in figure 1 because these estimates do not adjust for household size. Our measure of the official poverty rate differs from the rate computed by the U.S. Census Bureau because our income measure includes the annuitized value of 80 percent of retirement accounts and other financial assets. The experimental measure compares before-tax income net of out-of-pocket costs to the NAS poverty thresholds. Estimates assume that health care costs grow at the intermediate rate projected by the Medicare Boards of Trustees (2009).

## Impact of Out-of-Pocket Costs on Future Net Incomes and Poverty Rates

As health care costs grow over the coming decades, older adults' incomes net of out-of-pocket spending will increase only about half as fast as their total incomes. Between 2010 and 2040, median household income for adults age 65 and older will increase about \$10,000 (in constant 2008 dollars), a 29 percent jump (table 4).<sup>7</sup> Real median household income net of out-of-pocket costs, however, will increase only about \$4,000, or 15 percent. Rising out-of-pocket health care spending, then, will consume about three-fifths of the growth in older Americans' real household incomes. Our measure of the official poverty rate, which does not account for changes in out-of-pocket health care costs, will decline between 2010 and 2040 for adults age 65 and older, falling

<sup>7</sup> Unlike the estimates reported in figure 1, these calculations are not adjusted for differences in household size.

from 8.1 to 5.2 percent.<sup>8</sup> Our measure of an experimental NAS poverty rate that subtracts out-of-pocket spending from before-tax income is substantially higher, because many low-income older Americans incur substantial costs. When out-of-pocket spending is subtracted from income, the 2010 poverty rate climbs to 21.3 percent. Unlike the official poverty rate, it will be no lower in 2040 than 2010.

## **What Happens If Retiree Health Benefits Disappear?**

Our baseline simulations assume that employers provide retiree health benefits through 2040 at about the same rate as they do today. However, as people live longer and spend more time in retirement, employers might cut these benefits substantially, as they did in the early 1990s. Cutbacks may become especially likely if health care costs increase significantly. We assess the impact of possible cutbacks in retiree health benefits by simulating how much seniors would spend on health care if employers eliminate all retiree health benefits in 2040 and everyone who would otherwise have received these benefits instead participated in Medicare Part D and purchased Medigap policies.

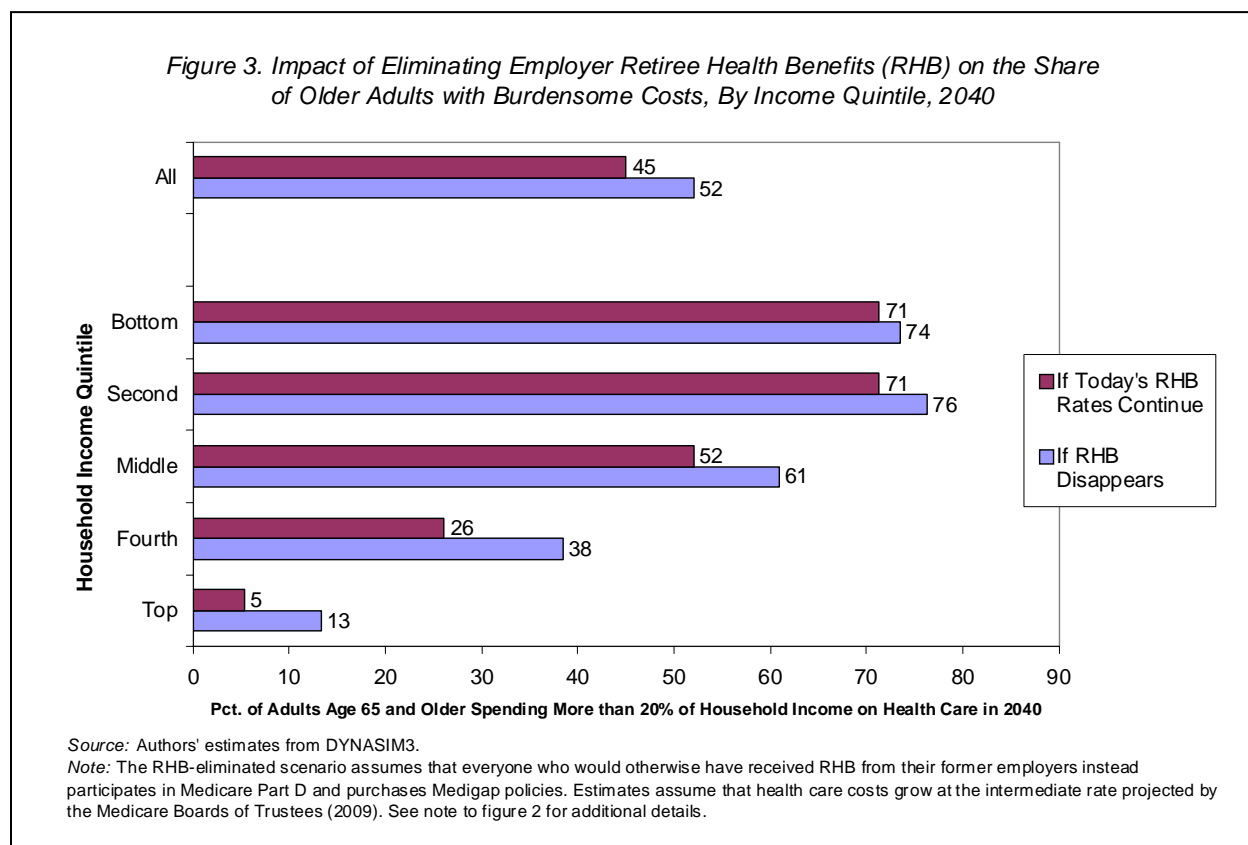
If employer-sponsored retiree health benefits disappear, in 2040 52 percent of adults age 65 and older would spend more than 20 percent of their household income on health care, compared with 45 percent if current retiree health benefit rates continued (figure 3).<sup>9</sup> Middle- and upper-income seniors would be affected most, because they are now more likely than lower-income adults to receive retiree health benefits. For example, the share of seniors in the top fifth

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<sup>8</sup> The official 2008 poverty rate for adults age 65 and older is 9.7 percent (U.S. Census Bureau 2009), more than 1 percentage point higher than our 2010 estimate because unlike Census we include the annuitized value of household financial wealth in the income measure.

<sup>9</sup> The median share of household income spent on health care in 2040 would increase 2 percentage points, to 21 percent.





of the income distribution with financially burdensome health care cost would more than double (from 5 to 13 percent), while the share in the next fifth of the distribution would increase by 12 percentage points (from 26 to 38 percent).

## Spending Projections under Alternative Cost Growth Assumptions

The out-of-pocket spending projections reported so far are based on the Medicare trustees' intermediate cost growth assumptions, representing their best guess as to how costs might evolve under current Medicare rules. Actual costs might differ substantially. Reforms to health care practices, improvements in technology, or changes in the future health status of the older population, for example, might lead spending to grow more slowly or more rapidly than the trustees' intermediate path. To bound possible outcomes, we project future health care costs

using the trustees' low and high cost growth assumptions. The low-growth projection assumes that costs increase about 0.8 percent per year between 2010 and 2040, and the high-growth projection assumes that costs increase about 4.8 percent per year. We also examine another scenario that assumes that real per capita costs increase 4.4 percent each year, the actual average rate between 1970 and 2005.

Future cost growth will substantially affect boomers' ability to cover their old-age health care needs. If costs follow the Medicare trustees' low growth assumptions, older Americans will devote about the same share of their incomes to health care in 2040 as 2010, because costs will increase at about the same rate as income. Under the low-growth assumption, for example, in 2040 the median share of household income spent on health care by adults age 65 and older will be 10 percent, and 18 percent of older adults will spend more than one-fifth of their incomes on health care, the same shares as 2010 (table 5).

Under the Medicare trustees' high cost growth assumption, however, the financial burden of health care costs for older Americans will increase substantially over time. In 2040, the median share of household income spent on health care will climb to 35 percent for all adults age 65 and older and to 72 percent for those in the bottom fifth of the income distribution. More than 7 in 10 older adults will devote more than 20 percent of their incomes to health care, including nearly everyone in the second fifth of the income distribution. These adults will have limited resources, but too much income to qualify for public assistance with their health care costs. If costs increase as quickly as the high-growth scenario projects, older adults' median household income net of out-of-pocket spending will fall to about \$26,000 in 2040 (in constant 2008 dollars), about 13 percent less than in 2010. Nearly one-third of older adults will have incomes net of out-of-pocket costs that fall below the poverty level, up from about one-fifth in 2010. The

*Table 5. Financial Burden of Health Care Costs on Adults Age 65 and Older under Alternative Cost Growth Assumptions, 2040*

	<b>Baseline<sup>1</sup></b>	<b>Low<sup>2</sup></b>	<b>High<sup>3</sup></b>	<b>Repeat of 1970–2005<sup>4</sup></b>
<i>Median Percentage of Household Income Spent on Health Care, by Income Quintile</i>				
All	19	10	35	29
Bottom	39	21	72	60
Second	28	15	52	42
Middle	21	11	38	31
Fourth	14	7	25	21
Top	8	4	15	12
<i>Percentage of Adults Spending More than 20% of Income on Health Care, by Income Quintile</i>				
All	45	18	71	64
Bottom	71	42	76	76
Second	71	30	97	93
Middle	52	15	86	78
Fourth	26	4	67	53
Top	5	0.2	29	18
Median Household Income Net of Out-of-Pocket Costs (\$)	34,854	39,639	26,366	29,358
Experimental Poverty Rate, which Subtracts Out-of-Pocket Costs from Income (%)	21.4	15.0	32.8	28.6

*Source:* Authors' estimates from DYNASIM3.

*Notes:* Estimates are expressed in constant 2008 dollars. The experimental poverty measure compares before-tax income net of out-of-pocket costs to the NAS poverty thresholds.

1. Uses the Medicare trustees' intermediate cost growth assumption (averages 2.8 percent per year, 2010 to 2040)

2. Uses the Medicare trustees' low cost growth assumption (averages 0.8 percent per year, 2010 to 2040)

3. Uses the Medicare trustees' high cost growth assumption (averages 4.8 percent per year, 2010 to 2040)

4. Assumes costs grow at the same annual rate as between 1970 and 2005 (averages 4.4 percent per year, 2010 to 2040)

situation would be only slightly better if future costs grow at the same rate as they did between 1970 and 2005. Under that scenario, the median share of income spent on health care by adults age 65 and older would reach 29 percent in 2040, and 64 percent of older Americans would devote at least one-fifth of their incomes to out-of-pocket costs.

## Conclusions

Our simulations indicate that out-of-pocket health care spending by older adults will increase substantially over the next 30 years, creating significant financial hardships for many seniors. It's impossible, of course, to predict with certainty the future financial burden of health care costs. Health care spending growth depends on the pace of technological change, shifts in medical practices, changes in Medicare policy, the generosity of employer benefits, and other factors. Future incomes, which partly determine how much health care older adults can afford, depend on earnings growth, savings behavior, investment returns, employer contributions to retirement plans, and future Social Security policy. Nonetheless, if health care costs grow at the conservative rates forecast under the Medicare trustees' intermediate assumptions and current public and private policies continue, we project that out-of-pocket health care spending at older ages will rise much faster than incomes. In 2040, 45 percent of Americans age 65 and older will face financially burdensome health care costs, including about 7 in 10 low-income seniors. If costs instead grow at the higher average rates that prevailed between 1970 and 2005, nearly two-thirds of older Americans will spend at least 20 percent of their incomes on health care in 2040.

Health care costs may contribute to greater financial hardships for older Americans than these estimates suggest. Rising entitlement costs and the ballooning federal debt may lead to Medicare cuts that boost out-of-pocket costs, Social Security cuts that limit income growth, and tax increases that reduce disposable income. Employers may further cut retiree health benefits. Also, our estimates exclude nursing home, home care, and other long-term care costs, which have been increasing steadily and which often deplete recipients' financial resources.

The projections underscore the need to control rising health care spending. As many analysts have observed (e.g., Elmendorf 2009), steady cost growth threatens to bankrupt Medicare and strain the federal budget, potentially crowding out other government priorities. The deleterious effects of increased health care spending on older adults' personal budgets have received less attention but are also substantial. Numerous ways of curbing cost growth by improving the efficiency of health care delivery have been suggested, often focusing on reworking financial incentives to reward effective and efficient care (Social Security Advisory Board 2009). These reforms will not be easy to implement, but they are essential to Americans' retirement security.

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## Methods Appendix

We project out-of-pocket health care spending for older Americans by combining simulations of the characteristics of the future population with results from models of health insurance coverage and out-of-pocket costs. Projections of the future population are based on DYNASIM3, the Urban Institute’s dynamic microsimulation model. Starting with a representative sample of individuals and families from the 1990 to 1993 panels of the Survey of Income and Program Participation (SIPP), the model “ages” the data year by year, simulating such demographic events as births, deaths, marriages, and divorces, and such economic events as labor force participation, earnings, hours of work, and retirement. The model simulates Social Security coverage and benefits (including disability insurance [DI] benefits), employer-sponsored pension participation, and benefit payments and pension assets. It also simulates home and financial assets, health status, living arrangements, and income from other family members. Additionally, it calculates Supplemental Security Income (SSI) eligibility, participation, and benefits.

Each demographic and economic characteristic modeled in DYNASIM3 uses the most appropriate data available. Many of the model predictions are calibrated to external targets, and utilize the inflation, interest rate, and productivity growth assumptions used by the Social Security trustees. Table A1 reports the data and processes used to estimate the key characteristics. DYNASIM3 also includes Social Security and SSI benefit calculators and payroll tax calculators. For additional information about DYNASIM3, see Favreault and Smith (2004).<sup>10</sup>

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<sup>10</sup> Numerous recent studies of future retirement outcomes have used DYNASIM3, including research on various Social Security reform proposals (Favreault 2009; Favreault and Mermin 2008; Favreault et al. 2004; Mermin and Steuerle 2007), the boomers’ retirement preparedness (Butrica and Uccello 2004; Butrica, Smith, and Toder 2009a, 2009b; Butrica, Toder, and Toohey 2008), future long-term care arrangements (Johnson, Toohey, and Wiener 2007), and the effects of the shift away from traditional defined benefit plans (Butrica, Iams, Smith, and Toder 2009).



### *Predicting Health Insurance Coverage*

The out-of-pocket spending modules first simulate health insurance coverage and then estimate spending as a function of insurance coverage. Although we focus on outcomes for adults age 65 and older, we must also consider coverage and spending for their spouses, who may be younger than 65. The simulations assume that everyone age 65 and older and all younger adults on DI enroll in Medicare Parts A and B. We estimate a series of equations to simulate supplemental coverage, based on data from the Health and Retirement Study (HRS), a nationally representative survey of Americans age 51 and older and their spouses.<sup>11</sup> We use the 2006 wave, the most recent data available when we began the study.

We begin by projecting Medicaid enrollment. We first assign Medicaid to anyone receiving SSI, and to those younger than 65 who receive DI and have incomes below the federal poverty level. For those age 65 and older who do not receive SSI, we use a probit model of Medicaid coverage to simulate enrollment. The equation is estimated as a function of household income, education, age, marital status, and sex.

Low-income adults age 65 and older who do not receive full Medicaid benefits may receive QMB, SLMB, or the Low-Income Subsidy (LIS) for Medicare Part D. Medicare beneficiaries with few assets qualify for QMB if their incomes fall below the poverty level, SLMB if their incomes fall below 120 percent of the poverty level, and LIS if their incomes fall below 135 percent of the poverty level. Relatively few eligible older adults, however, enroll in these plans. Recent estimates shows that take-up rates among eligible seniors are only about 33 percent for QMB, 13 percent for SLMB, and 36 percent for LIS (CBO 2004; Hoadley, Hargrave, and Cubanski 2008). Nonetheless, we expect take-up rates among eligible adults to increase over time as average incomes rise and those who qualify become relatively worse off. We assume that

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<sup>11</sup> For more information on the HRS, see University of Michigan (2010).

the share of the total population receiving SLMB, QMB, and LIS remains constant over time (at the rates noted above), until the take-up rate among eligible adults reaches 100 percent in 2030. When the take-up rate is less than 100 percent, we assign coverage first to those with the lowest incomes.

We estimate a hierarchical series of probit equations to estimate health insurance coverage for those who do not enroll in Medicaid. For those who are employed, we estimate health insurance coverage from their own current employer (table A2). Then for those not employed or not receiving coverage from their current employer, we estimate coverage from former employers (table A3 and table A4). (Separate equations are estimated for workers and nonworkers.) For those without employer-sponsored coverage in their own names whose spouses have employer coverage, we estimate coverage through the spouse's current or former employer (table A5). Finally, we estimate models of Medigap coverage and Medicare Part D enrollment for adults age 65 and older without employer coverage (table A6). Coefficients from these models are applied to DYNASIM3 to simulate future coverage rates.

### ***Predicting Out-of-Pocket Spending***

We use data from the 2006 Medical Expenditures Panel Survey (MEPS) to estimate models of out-of-pocket spending. MEPS is a nationally representative household survey sponsored by the Agency for Healthcare Research and Quality that collects detailed information on health care expenditures.<sup>12</sup> We estimate the natural log of out-of-pocket spending on health care services, drugs, and devices and private premiums, separately for men, married women, and unmarried women (table A7). (Medicare premiums are excluded from the model and added to spending totals later.) Predictors include insurance coverage, household income, employment status, race,

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<sup>12</sup> The sample is restricted to noninstitutionalized adults. For more information on MEPS, see Cohen (1997).

age, education, and marital status. The model for married women also includes husband's out-of-pocket costs, to capture the positive correlation between husband's and wife's spending.

We apply coefficients from these models to DYNASIM3 to project out-of-pocket health care spending through 2040. We assign Medicare Part B premiums to all adults age 65 and older (with high-income beneficiaries paying more than others), except those in Medicaid, QMB, and SLMB (who do not pay Part B premiums). Seniors with Medicare Part D coverage are assigned average Part D premiums (CMS 2009), except those in Medicaid, QMB, SLMB, and LIS, who do not pay any Part D premiums. We estimate out-of-pocket costs for individuals age 65 and older. However, when we compare income to costs for married adults, we include spouses' spending even when they are younger than 65. The model inflates spending to 2010, 2020, 2030, and 2040 under alternative cost growth assumptions, as described in the body of the report. We assume that Medicare premiums, private premiums, and payments to health care providers grow at the same rate.

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**Table A1. Core Demographic and Economic Processes**

Process	Data	Form and predictors
Demographics		
Birth	NLSY (1979–94), NLS97 (1997–2005) VS, OACT 2009	Seven-equation parity progression model; varies based on marital status; predictors include age, marriage duration, time since last birth; uses vital rates after age 39; sex of newborn assigned by race; probability of multiple birth assigned by age and race.
Death	NLMS (1979–81), VS, OACT 2009	Three equations; time trend from Vital Statistics 1982–97; includes socioeconomic differentials; separate process for the disabled based on age, sex, and disability duration derived from Zayatz (1999).
Immigration	OACT 2009	Simple reweighting procedures.
First marriage	NLSY (1979–93), NCHS	Eight discrete-time logistic hazard models for persons age 15 to 34; depends on age, education, race, earnings, presence of children (for females); uses Vital Statistics rates at ages outside this range.
Remarriage	NCHS	Table lookups; separate by sex for widowed and divorced.
Mate matching	N/A	Closed marriage market (spouse must be selected from among unmarried, opposite-sex persons in the population); match likelihood depends on age, race, education.
Divorce	PSID (1985–93)	Couple-level outcome; discrete-time logistic hazard model depends on marriage duration, age and presence of children, earnings of both spouses. (Also includes a separate model to predict separation.)
Leaving home	NLSY (1979–94)	Three equations; family size, parental resources, and school and work status are important predictors.
Living arrangements	SIPP (1990–96)	Projected at age 62 and older; predictors include number of children ever born, income sources, demographic characteristics.
Education	NLSY (1979–94), CPS (1995–98)	Ten cross-tabulations based on age, race, sex, and parents' education.
Disability	SIPP (1990–96)	Discrete-time logistic hazard model incorporates various socioeconomic differences (age, education, lifetime earnings, race/ethnicity, marital status and nativity).

(continued)

**Table A1. (continued)**

Process	Data	Form and predictors
<b>Economics</b>		
Labor supply and earnings	PSID (1980–93), NLSY (1979–89), OACT 2009	Separate participation, hours decisions, wage rates for 16 age-race-sex groups; all equations have permanent and transitory error components; key predictors include marital status, education level, age splines, region of residence, disability status, whether currently in school, birth cohort, job tenure, and education level interacted with age splines; also number and ages of children. Model forms vary by outcomes.
Job change	SIPP, PENSIM	Assigned from PENSIM to DYNASIM population to age 50 through a statistical match (based on age, gender, education, industry, tenure, pension coverage and type of plan).
Pension coverage	SIPP, PIMS	Accumulation of defined contribution plans based on self-reports; assignment of replacement rates for defined benefit plans with reductions in replacement rates based on number of job changes.
Saving/Consumption	SIPP, PSID (1984–94), HRS, SIPP 1990–96 matched with SSA administrative data (1951–99)	Separate models estimated for housing and nonhousing wealth based on income and demographic characteristics using random effects and annual hazard models; each model includes an individual-specific error term.
<b>Benefits</b>		
Social Security Old-Age and Survivors Insurance (OASI)	SIPP (1990–96) matched to SSA administrative data (1951–99)	Benefit claiming simulated beginning at age 62; model uses discrete-time hazard models to determine age at take-up based on age, benefit amount, spousal characteristics, and Social Security policy parameters.
Social Security Disability Insurance (SSDI)	SIPP (1990–96) matched to SSA administrative data (1951–99)	Benefit claiming predicted through discrete-time hazard model including age, education, lifetime earnings, race, ethnicity, marital status, nativity, and disability status in $t - 1$ .
Supplemental Security Income (SSI)	SIPP (1990–96)	Uses program rules (income and asset tests) to determine eligibility and a participation function based on potential benefit and demographic and economic characteristics including age, education, race, family structure, home ownership, and sources of income.

*Source:* Updated from Favreault and Smith (2004).

*Notes:* CPS = Current Population Survey; HRS = Health and Retirement Survey; N/A = Not Applicable; NCHS = National Center for Health Statistics; NLMS = National Longitudinal Mortality Study; NLSY = National Longitudinal Survey of Youth; OACT = Intermediate 2009 assumptions of the OASDI Trustees; PENSIM = Pension Simulation Model; PIMS = Pension Insurance Modeling System from the Pension Benefit Guaranty Corporation; PSID = Panel Study of Income Dynamics; SIPP = Survey of Income and Program Participation; VS = Vital Statistics.

**Table A2. Probit Estimates of Employer-Sponsored Health Insurance Coverage from Own Current Employer**

Covariates	Age 65 and Older		Younger than 65	
	Men	Women	Men	Women
Natural log of earnings	0.174*** (0.025)	0.128*** (0.023)	0.222*** (0.082)	0.194*** (0.029)
Natural log of household wealth	—	—	0.193 (0.132)	0.146 (0.652)
Indicator of negative household wealth	—	—	—	0.146 (0.652)
Age	-0.039*** (0.010)	-0.072*** (0.012)	—	-0.012 (0.012)
Did not complete high school	—	—	-0.207 (0.433)	-0.452** (0.225)
College graduate	0.232** (0.093)	0.097 (0.120)	-0.764* (0.442)	—
Married	0.065 (0.131)	-0.248** (0.097)	—	—
African American	0.177 (0.149)	—	-0.478 (0.596)	0.170 (0.192)
Hispanic	—	0.332 (0.216)	0.598 (0.555)	0.284 (0.296)
Constant	0.108 (0.791)	3.196*** (0.907)	-4.124** (1.792)	-1.212 (0.893)
Number of observations	1132	907	76	467
Pseudo R-squared	0.103	0.104	0.158	0.106

*Source:* Authors' estimates from the 2006 HRS.

*Notes:* The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of employed adults who are not enrolled in Medicaid. Household wealth includes the value of the home, other real property, and financial assets. To treat single and married adults comparably, we divide married adults' household wealth by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)



**Table A3. Probit Estimates of Employer-Sponsored Health Insurance Coverage from Own Former Employers, for Adults Age 65 and Older**

Covariates	Working		Not Working	
	Men	Women	Men	Women
Natural log of earnings	−0.015 (0.015)	−0.056*** (0.021)	—	—
Natural log of household income	—	—	0.253*** (0.035)	0.184*** (0.034)
Natural log of household wealth	−0.030 (0.034)	—	0.054*** (0.016)	0.024*** (0.009)
Indicator of negative household wealth	−1.005 (0.644)	—	0.572** (0.236)	—
Age	—	0.012 (0.013)	0.011*** (0.003)	−0.007** (0.003)
Did not complete high school	−0.435*** (0.154)	−0.423* (0.246)	−0.208*** (0.061)	−0.424*** (0.069)
College graduate	—	0.654*** (0.153)	0.121** (0.060)	0.437*** (0.061)
Married	—	—	0.027 (0.058)	−0.329*** (0.052)
African American	—	0.373** (0.180)	0.044 (0.082)	0.361*** (0.073)
Hispanic	—	−0.548 (0.545)	−0.305*** (0.117)	−0.179 (0.129)
Constant	−0.377 (0.433)	−1.843* (0.986)	−4.484*** (0.478)	−2.517*** (0.434)
Number of observations	889	693	3358	4737
Pseudo R-squared	0.021	0.082	0.042	0.070

*Source:* Authors' estimates from the 2006 HRS.

*Notes:* The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of adults age 65 and older who are not enrolled in Medicaid and who do not receive health insurance from their current employer. Household wealth includes the value of the home, other real property, and financial assets. To treat single and married adults comparably, we divide married adults' household wealth by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)

**Table A4. Probit Estimates of Employer-Sponsored Health Insurance Coverage from Own Former Employers, for Adults Younger than Age 65**

	Employed	Not Employed
Natural log of earnings	0.029 (0.032)	—
Natural log of household wealth	—	0.143*** (0.051)
Age	0.049* (0.027)	—
Did not complete high school	−0.493 (0.376)	−0.614*** (0.232)
College graduate	0.261 (0.248)	0.420*** (0.159)
Male	0.722*** (0.274)	0.633*** (0.199)
African American	0.284 (0.304)	0.560** (0.229)
Hispanic	−0.370 (0.539)	−0.241 (0.300)
Constant	−4.371*** (1.661)	−7.048*** (1.448)
Number of observations	242	538
Pseudo R-squared	0.087	0.135

*Source:* Authors' estimates from the 2006 HRS.

*Notes:* The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of adults younger than age 65 who are not enrolled in Medicaid and who do not receive health insurance from their current employer. Household wealth includes the value of the home, other real property, and financial assets. To treat single and married adults comparably, we divide household income and wealth for married adults by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)

**Table A5. Probit Estimates of Employer-Sponsored Health Insurance Coverage through Spouse's Current or Former Employer, by Age**

	Age 65 and Older		Younger than age 65
	Spouse's current employer	Spouse's former employer	
Natural log of household income	0.454*** (0.125)	0.071 (0.072)	0.080 (0.150)
Natural log of household wealth	-0.081 (0.058)	0.023 (0.041)	—
Indicator of negative household wealth	-1.124 (0.927)	0.084 (0.712)	—
Age	-0.035* (0.018)	0.014* (0.008)	0.057*** (0.019)
Did not complete high school	—	0.097 (0.139)	—
College graduate	0.084 (0.179)	-0.229* (0.125)	—
African American	0.324 (0.243)	-0.482*** (0.174)	-0.981** (0.419)
Hispanic	-0.248 (0.277)	—	-0.323 (0.396)
Male	-0.422*** (0.150)	-0.698*** (0.102)	-0.713* (0.406)
Constant	-1.253 (1.827)	-1.147 (1.088)	-2.984 (2.018)
Number of observations	361	843	213
Pseudo R-squared	0.074	0.069	0.094

*Source:* Authors' estimates from the 2006 HRS.

*Notes:* The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of married adults who are not enrolled in Medicaid, who do not receive health insurance from their own employer, and whose spouse has employer coverage. For adults younger than 65, the dependent variable equals one if the employer has coverage through either the spouse's current or former employer. Household wealth includes the value of the home, other real property, and financial assets. To treat single and married adults comparably, we divide household income and wealth for married adults by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)

**Table A6. Probit Estimates of Medigap and Medicaid Part D Coverage, for Adults Age 65 and Older**

	Medigap	Part D
Natural log of earnings	0.023*** (0.005)	0.008* (0.004)
Natural log of household income	0.048** (0.023)	0.046** (0.018)
Natural log of household wealth	0.076*** (0.010)	−0.001 (0.005)
Indicator of negative household wealth	0.372** (0.149)	—
Age	0.014*** (0.002)	−0.005** (0.002)
Did not complete high school	−0.041 (0.042)	0.110*** (0.039)
College graduate	−0.166*** (0.048)	0.027 (0.046)
Married	0.025 (0.038)	0.058 (0.036)
Male	−0.151*** (0.036)	−0.317*** (0.034)
African American	−0.697*** (0.063)	−0.090* (0.051)
Hispanic	−0.917*** (0.087)	0.059 (0.063)
Constant	−2.695*** (0.311)	0.019 (0.253)
Number of observations	6547	6547
Pseudo R-squared	0.073	0.013

*Source:* Authors' estimates from the 2006 HRS.

*Notes:* The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of adults age 65 and older who are not enrolled in Medicaid and who lack supplemental coverage from employers. Household wealth includes the value of the home, other real property, and financial assets. To treat single and married adults comparably, we divide household income and wealth for married adults by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)

**Table A7. Ordinary Least Squares Regressions of Out-of-Pocket Health Care Spending**

	Men	Unmarried Women	Married Women
Insurance Coverage			
Medicaid	−0.592** (0.253)	−0.879*** (0.194)	−0.406 (0.325)
Own current employer	1.663*** (0.273)	1.362*** (0.337)	1.134*** (0.300)
Own former employer	1.111*** (0.130)	0.763*** (0.125)	1.200*** (0.185)
Spouse's current employer	1.247*** (0.195)	—	1.223*** (0.209)
Spouse's former employer	1.334*** (0.205)	—	0.881*** (0.166)
Medigap	1.697*** (0.106)	1.186*** (0.092)	1.469*** (0.145)
[Reference: Medicare only or uninsured]	—	—	—
Medicare Part D coverage	0.232** (0.105)	0.139 (0.114)	0.080 (0.118)
Natural log of household income	0.034 (0.024)	0.053** (0.026)	0.028 (0.033)
Employed	−0.194 (0.139)	−0.452* (0.274)	−0.359** (0.176)
Race			
African American	−0.751*** (0.210)	−0.339** (0.144)	−0.051 (0.156)
Hispanic	−0.647** (0.271)	−0.431 (0.291)	−0.083 (0.202)
[Ref: Non-Hispanic white]	—	—	—
Age			
Less than 65	−0.434 (0.376)	—	−0.296* (0.176)
65–69	−0.014 (0.144)	−0.325* (0.172)	−0.544*** (0.154)
70–74	0.125 (0.130)	−0.266* (0.138)	−0.514*** (0.159)
75–79	0.100 (0.150)	−0.184 (0.120)	−0.329 (0.205)
[Reference: 80+]	—	—	—

(continued)

**Table A7. (continued)**

	Men	Unmarried Women	Married Women
Education			
Not high school graduate	-0.113 (0.146)	-0.124 (0.115)	-0.140 (0.168)
[Ref: High school graduate]	—	—	—
College graduate	0.214** (0.106)	0.287** (0.115)	0.010 (0.131)
Marital status			
Married	0.209 (0.355)	—	—
Widowed	0.130 (0.376)	0.334 (0.207)	—
Divorced or separated	0.006 (0.409)	0.257 (0.230)	—
[Reference: Never married]	—	—	—
Husband's out-of-pocket costs	—	—	0.214*** (0.048)
Constant	5.595*** (0.423)	6.161*** (0.327)	5.092*** (0.444)
N	1,465	1,232	1,027
R-squared	0.223	0.230	0.238

Source: Authors' estimates from the 2006 MEPS.

Notes: The table reports coefficients, with standard errors in parentheses. The models are estimated on a sample of adults age 65 and older, plus those younger than 65 married to spouses at least 65 years old. The dependent variable is the natural log of annual out-of-pocket health care costs. It includes private premiums but excludes premiums for Medicare Parts B and D. To treat single and married adults comparably, we divide married adults' household income for by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Sciences (Citro and Michael 1995).

\*\*\*  $p < .01$ ; \*\*  $.01 \leq p < .05$ ; \*  $.05 \leq p < .10$  (two-tailed tests)